Amendments to the Claims:

The listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

Claims 1-29 (canceled)

Claim 30 (currently amended): A device, adapted to be mounted on a vehicle tire, for obtaining energy from the load-induced tire deflections of at least one tire inner wall while rotating upon a load-bearing surface, the device comprising:

a substrate;

an energy converter, mounted on the substrate, coupled to said deflections and converting said deflections into pulsed electrical output energy;

capture electronics for capturing said pulsed electrical output energy, wherein said capture electronics maximizes the captured energy by adaptation to at least one characteristic of the pulsed electrical energy:

~~The device according to claim 15, wherein said capture electronics comprises:~~

at least one capacitor where the said at least one characteristic is the pulse width of the pulsed electrical energy; and

the adaptation is to select the value of the at least one capacitor based on the pulse width of the pulsed electrical energy.

Claim 31 (currently amended): A device, adapted to be mounted on a vehicle tire, for obtaining energy from the load-induced tire deflections of at least one tire inner wall while rotating upon a load-bearing surface, the device comprising:

a substrate;

an energy converter, mounted on the substrate, coupled to said deflections and converting said deflections into pulsed electrical output energy;

capture electronics for capturing said pulsed electrical output energy, wherein said capture electronics maximizes the captured energy by adaptation to at least one characteristic of the pulsed electrical energy;

~~The device according to claim 15, wherein said capture electronics comprises:~~

at least one capacitor where the said at least one characteristic is the voltage captured on the at least one capacitor from the pulsed electrical energy; and

the adaptation is to select the at least one capacitor value based on said voltage.

Claims 32-55 (canceled):

Claims 57-59 (canceled):

Claim 60 (currently amended): In a tire adapted to be mounted on a vehicle wheel, a device for obtaining energy from the tire while said tire is rotating upon a load-bearing surface, the device comprising:

a substrate attached to the tire at a selected radial and circumferential location;

an energy converter mounted on the substrate, the converter being disposed to respond to the load induced deflections of at least one tire inner wall to convert said deflections to pulsed electrical output energy;

capture electronics for capturing said pulsed electrical output energy, wherein said capture electronics further determines at least one feature of the pulsed electrical energy and adaptively changes its configuration so as to maximize the energy captured; and

~~The device according to claim 42, further comprising~~ at least one capacitor for capturing the said pulsed electrical energy and wherein the said at least one feature is the electrical energy pulse width and said configuration is adapted by selecting the capacitor value based on said pulse width.

Claim 61 (currently amended): In a tire adapted to be mounted on a vehicle wheel, a device for obtaining energy from the tire while said tire is rotating upon a load-bearing surface, the device comprising:

a substrate attached to the tire at a selected radial and circumferential location;

an energy converter mounted on the substrate, the converter being disposed to respond to the load induced deflections of at least one tire inner wall to convert said deflections to pulsed electrical output energy;

capture electronics for capturing said pulsed electrical output energy, wherein said capture electronics further determines at least one feature of the pulsed electrical energy and adaptively changes its configuration so as to maximize the energy captured; and

~~The device according to claim 42, further comprising~~ at least one capacitor for capturing the said pulsed electrical energy and wherein the said at least one feature is the voltage captured on the at least one capacitor from the pulsed electrical energy and said configuration is adapted by selecting the at least capacitor value based on said voltage.

Claims 62-64 (canceled):

Claim 65 (withdrawn): In a vehicle tire adapted to be mounted on a vehicle wheel, a device for monitoring at least one tire parameter and obtaining energy from the tire while the tire rotates upon a load-bearing surface, the device comprising:

at least one sensor to monitor the at least one tire parameter and producing a signal representative of the parameter;

a vehicle transmitter, coupled to said signal, for transmitting a representation of the signal to a remote vehicle receiver;

an energy converter disposed to respond to the load induced deflections of at least one tire inner wall and being adapted to convert said deflections into an energy output form; and

an energy transmitter coupled to said output energy to transmit said energy for use by said device.

Claim 66 (canceled):

Claim 67 (withdrawn): A method for obtaining electrical energy from a vehicle tire while said tire is rotating upon a load-bearing surface comprising the steps of:

coupling an energy converting device to the load-induced deflections of at least one tire inner wall;

providing pulsed electrical energy output in response to said deflections;

determining at least one feature of the electrical energy pulses;

capturing the electrical energy pulses on a capturing mechanism;

adapting the capturing mechanism to maximize the electrical energy capture based on at least one feature of the pulses; and

outputting the captured electrical energy.

Claim 68 (withdrawn): The method according to claim 67 wherein said at least one feature is the pulse width.

Claim 69 (withdrawn): The method according to claim 67 wherein the source resistance of the energy converting device is known and said at least one feature is the ratio of the pulse width to the resistance.

Claim 70 (withdrawn): The method according to claim 67 wherein the at least one feature is the energy captured.

Claim 71 (withdrawn): A method for adapting a pulsed energy capture device, having at least one capacitor, to maximize the captured energy comprising the steps of:

determining the pulse width of the energy pulses;

selecting the at least one capacitor based on said pulse width;

using the selected at least one capacitor to capture the energy pulses; and

outputting the captured energy.

Claim 72 (withdrawn): The method according to claim 71 wherein the pulsed energy source is electrical.

Claim 73 (withdrawn): A method for adapting a pulsed energy capture device, having at least one capacitor, to maximize the captured energy comprising the steps of:

determining the pulse width of the energy pulses;

determining the source resistance of the pulsed energy source;

selecting the at least one capacitor based on the ratio of the pulse width to said resistance;

using the selected at least one capacitor to capture the energy pulses; and

outputting the captured energy.

Claim 74 (withdrawn): The method according to claim 73 wherein the pulsed energy source is electrical.

Claim 75 (withdrawn): A method for adapting a pulsed energy capture device, having at least one capacitor, to maximize the captured energy comprising the steps of:

capturing the energy pulses on the at least one capacitor;

outputting the captured energy;

determining the energy captured on the at least one capacitor; and

selecting the at least one capacitor based on the energy.

Claim 76 (withdrawn): The method according to claim 75 wherein the pulsed energy source is electrical.

Claim 77 (withdrawn): A method for determining the time duration of the load bearing surface contact region from a vehicle tire while rotating upon the load-bearing surface, comprising the steps of:

coupling an energy converter to the load-induced deflections of at least one tire inner wall;

providing pulsed energy output in response to said deflections; and

determining the duration of the contact based on the time between rising and falling edges of the pulses.

Claim 78 (withdrawn): A method for determining the length of the load bearing surface contact region of a vehicle tire of known radius while rotating upon the load-bearing surface, comprising the steps of:

coupling an energy converter to the load-induced deflections of at least one tire inner wall surface;

providing pulsed energy output in response to said deflections;

determining the duration of the contact based on the time between the rising and falling edges of the pulses;

determining the period between contact regions;

calculating the length from the duration and period and the known tire radius.

Claim 79 (withdrawn): The method of claim 78 where the period is determined by measuring the time between contact regions based on the rising or falling edges of the pulses.

Claim 80 (withdrawn): A run flat tire having an inner core adapted with a cutout that accommodates a device mounted on an inner surface and protects said device as the tire is run flat.

Claim 81 (canceled):

Claim 82 (currently amended): A device, adapted to be mounted on a vehicle tire, for obtaining energy from the load-induced tire deflections of at least one tire inner wall while rotating upon a load-bearing surface, the device comprising:

an energy converter coupled to said deflections and converting said deflections into pulsed electrical energy, and

capture electronics for capturing said pulsed electrical energy,

wherein said capture electronics maximizes the captured energy by adaptation to at least one characteristic of the pulsed electrical energy, ~~The device according to claim 81,~~ and wherein said capture electronics comprises:

at least two capacitors where the said at least one characteristic is the pulse width of the pulsed electrical energy; and

the adaptation is to enable the combination of said at least two capacitors based on the pulse width.

Claim 83 (currently amended): A device, adapted to be mounted on a vehicle tire, for obtaining energy from the load-induced tire deflections of at least one tire inner wall while rotating upon a load-bearing surface, the device comprising:

an energy converter coupled to said deflections and converting said deflections into pulsed electrical energy, and

capture electronics for capturing said pulsed electrical energy,

wherein said capture electronics maximizes the captured energy by adaptation to at least one characteristic of the pulsed electrical energy, ~~The device according to claim 81,~~ and wherein said capture electronics comprises:

at least two capacitors where the said at least one characteristic is the voltage captured on the at least two capacitors from the pulsed electrical energy; and

the adaptation is to enable the combination of said at least two capacitors based on the voltage.

Claims 84-87 (canceled):

Claim 88 (currently amended): ~~The method according to claim 87~~ [.]A method for obtaining electrical energy from a vehicle tire while said tire is rotating upon a load-bearing surface, the method comprising the steps of:

coupling an electrical energy converting device to the load-induced deflections of at least one tire inner wall ,wherein the source resistance of the energy converting device is known;

determining at least one feature of the electrical energy pulses;

capturing the electrical energy pulses on a capturing mechanism;

adapting the capturing mechanism to maximize the electrical energy capture based on at least one feature of the pulses and said at least one feature comprises the ratio of the pulse width to the resistance; and

outputting the captured electrical energy;

Claim 89 (canceled):

Claim 90 (new): A device, adapted to be mounted on a vehicle tire, for maximizing the captured electrical pulsed energy generated from an energy source coupled to the load-induced tire deflections, the device comprising:

capture electronics for capturing said pulsed electrical output energy, wherein said electronics maximizes the captured energy by adaptation to at least one characteristic of the pulsed electrical energy.

Claim 91 (new): The device according to claim 90, wherein said at least one characteristic is the pulse width of the generated pulsed energy.

Claim 92 (new): The device according to claim 90, wherein said at least one characteristic is, further, the ratio of the pulse width of the pulsed electrical energy to the source resistance of the energy source.

Claim 93 (new): The device according to claim 90 wherein said at least one characteristic is the voltage of the pulsed electrical energy.

Claim 94 (new): The device according to claim 90 wherein said at least one characteristic is the energy captured.

Claim 95 (new): The device according to claim 90, wherein the energy source comprises a piezo-electric device.

Claim 96 (new): The device according to claim 90, wherein the energy source comprises a magnet and coil combination.

Claim 97 (new): The device according to claim 90, wherein said capture electronics comprises at least two energy storage capacitors and said adaptation comprises selecting the combination of said capacitors according to said at least one characteristic.

Claim 98 (new): The device according to claim 90, further comprising:

a substrate on which said electronics is mounted; and

a base plate securing said substrate to the tire.

Claim 99 (new): The device according to claim 98, wherein said base plate further has opposed parallel inner and outer surfaces and a periphery, said outer surface engaging an inner surface of the tire, and said device further comprises:

a patch overlying the inner surface of said base plate, said base plate being sandwiched between said patch and said inner surface of the tire, said patch further having a portion extending beyond said periphery of the base plate, said portion of said patch being bonded to said inner surface of the tire, and wherein said patch includes an aperture through which the substrate projects and is flexibly held to the tire.

Claim 100 (new): A method for maximizing the captured electrical pulsed energy generated from an energy source coupled to the load-induced tire deflections, the method comprising the steps of:

determining at least one feature of the electrical energy pulses;

capturing the electrical energy pulses on a capturing mechanism;

adapting the capturing mechanism to maximize the electrical energy capture based on at least one feature of the pulses; and

outputting the captured electrical energy.

Claim 101 (new): The method according to claim 100, wherein said at least one feature comprises the pulse width.

Claim 102 (new): The method according to claim 100, wherein the source resistance of the energy generating device is known and said at least one feature further comprises the ratio of the pulse width to the resistance.

Claim 103 (new): The method according to claim 100, wherein said at least one feature comprises the voltage of the energy captured.

Claim 104 (new): The method according to claim 100, wherein said at least one feature comprises the energy captured.

Claim 105 (new): The method according to claim 100, wherein the adaptation is to select, from at least two energy capture capacitors, the combination that maximizes the captured energy.

Claim 106 (new): In a tire adapted to be mounted on a vehicle wheel, a device to flexibly mount electronics to the tire, the device comprising:

a substrate to which the electronics are mounted;

a base plate for securing said substrate to an inner surface of the tire, the base plate having opposed parallel inner and outer surfaces and a periphery, said outer surface engaging said inner surface of the tire; and

a patch overlying the inner surface of the base plate, said base plate being sandwiched between said patch and said inner surface of the tire, said patch further having a portion extending beyond said periphery of the base plate, said portion of said patch being bonded to said inner surface of the tire, wherein said patch includes an aperture through which the substrate projects.